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Docket No.: SON-1907/CON
(80001-2881)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Shigeki MOTOYAMA et al.

Confirmation No.: 4695

Application No.: 10/684,460

Art Unit: 2675

Filed: October 15, 2003

Examiner: L. Jorgensen

For: INPUT DEVICE AND ELECTRONIC
APPARATUS HAVING THE SAME

RESPONSE TO ORDER RETURNING UNDOCKETED APPEAL TO EXAMINER

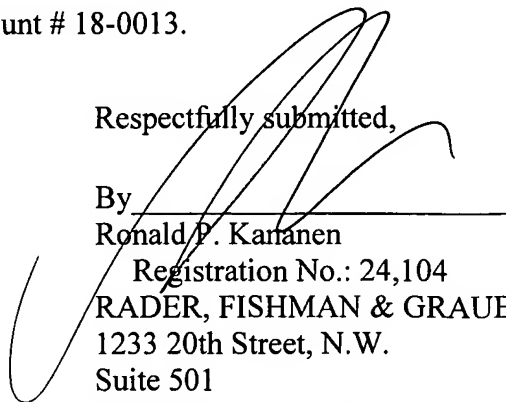
MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is in response to the Order Returning Undocketed Appeal To Examiner mailed on September 25, 2006. A revised Appellant's Brief is provided in response to the Order. If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: October 13, 2006

Respectfully submitted,

By 
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APPELLANT'S BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

This is an Appeal Brief under 37 C.F.R. §41.37 appealing the final decision of the Examiner dated April 4, 2005. Each of the topics required by 37 C.F.R. §41.37 is presented herewith and is labeled appropriately.

This brief is in furtherance of the Final Office Action on April 4, 2005.

A Notice of Appeal has been filed in this case on September 2, 2005 along with a two-month filed on September 6, 2005. Please note that September 4, 2005 fell on a Sunday and that September 6, 2005 is the next day after September 4, 2005 that is neither a Saturday, Sunday nor a Federal holiday.



Application No.: 10/684,460

Docket No.: SON-1907/CON

I. REAL PARTY IN INTEREST

Sony Corporation of Tokyo, Japan ("Sony") is the real party in interest of the present application. An assignment of all rights in the present application to Sony was executed by the inventor and recorded by the U.S. Patent and Trademark Office at **reel 011399, frame 0487**.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-13 (Canceled).

Claims 14-21 (Rejected).

Claims 22-23 (Objected to as containing allowable subject matter).

Claims 24-28 (Rejected).

Accordingly, Appellant hereby appeals the final rejection of claims 14-21 and 24-28, which are presented in the Claims Appendix.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection of April 4, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following description is provided for illustrative purposes and is not intended to limit the scope of the invention.

The present invention relates to an input device and an electronic apparatus having such an input device capable of providing visual amusement at the time of operating thereof.

Claims 14, 18-21, 24-25 - Claimed is an electronic apparatus having an input device that includes a sheet-type switch portion (62) having a first sheet (62A), a second sheet (62B), a first electrode (63A), and a second electrode (62B). The first and second electrodes (63A, 63B) are between the first sheet (62A) and the second sheet (62B). The first electrode (63A) is structurally adapted to come into electrical contact with the second electrode (63B) (specification at Figures 4, 5, 10, 11).

The electronic apparatus additionally includes a reversible chromatic layer (60) having at least two coatings (60A, 60B). Each of the at least two coatings (60A, 60B) is structurally adapted to exhibit thermochromism (specification at Figures 12A, 12B, 13A, 13B, page 17, line 27 to page 18, line 7 and page 18, line 20 to page 19, line 11). Moreover, the first sheet (62A) is between the reversible chromatic layer (60) and the first electrode (63A) (specification at Figures 4, 5, 10, 11).

Claims 15-17 - Within claim 15, said sheet-type switch portion includes a spacer (62C) between said first sheet (62A) and said second sheet (62B), said spacer (62C) being adjacent said first and second electrodes (63A, 63B) (specification at Figures 4, 5, 10, 11).

Claim 26 - Within claim 26, said first sheet (62A) is structurally adapted to be plastically deformed (Specification at page 13, line 29 to page 14, line 2).

Claim 27 - Within claim 27, an input operation is effected by direct contact with said second sheet (Specification at page 12, lines 19-22).

Claim 28 - Within claim 28, said second sheet (62B) is structurally adapted to be plastically deformed (Specification at page 13, line 29 to page 14, line 2).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented for consideration in this appeal are as follows:

Whether the Examiner erred in rejecting claims 14-21, 24-26 and 28 under 35 U.S.C. §103 as allegedly being obvious over U.S. Patent No. 5,228,562 to Burk, in view of WO 94/14112 to Itoh et al. (Itoh), and of U.S. Patent No. 4,554,565 to Kito et al. (Kito).

Whether the Examiner erred in rejecting claims 14-21 and 24-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 4-7, respectively, of U.S. Patent No. 6,690,362 to Motoyama et al. (Motoyama) in view of Burk.

These issues will be discussed hereinbelow.

VII. ARGUMENT

In the Final Office Action of April 4, 2005:

The Examiner erred in rejecting claims 14-21, 24-26 and 28 under 35 U.S.C. §103 as allegedly being obvious over Burk, in view of Itoh, and of Kito.

The Examiner erred in rejecting claims 14-21 and 24-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 4-7, respectively, of to Motoyama in view of Burk.

For at least the following reasons, Appellant submits that these rejections are both technically and legally unsound and should therefore be reversed.

Grouping of claims

Claims 14-28 are currently pending in this application, with claims 14-21 and 24-28 being the subject of this appeal.

For purposes of the issues presented by this appeal:

Claims 14, 18-21, 24-25 stand or fall together.

Claims 15-17 stand or fall together.

Claim 26 stands or falls alone.

Claim 27 stands or falls alone.

Claim 28 stands or falls alone.

The arguments set forth in the following section provide reasons why these claims are considered patentable, 37 C.F.R. §41.37(c)(1)(vii).

The Examiner erred in rejecting claims 14-21, 24-26 and 28 under 35 U.S.C. §103 as allegedly being obvious over Burk, in view of Itoh, and of Kito.

Claims 14, 18-21, 24-25 - The rejection of these claims is traversed at least for the following reasons.

Claim 14 includes the features of:

a sheet-type switch portion (62) having a first sheet (62A), a second sheet (62B), a first electrode (63A), and a second electrode (63B), said first and second electrodes (63A, 63B) being between said first sheet (62A) and said second sheet (62B), said first electrode (63A) being structurally adapted to come into electrical contact with said second electrode (63B); and

a reversible chromatic layer (60) having at least two coatings (60A, 60B), each of said at least two coatings (60A, 60B) being structurally adapted to exhibit thermochromism, said first sheet (62A) being between said reversible chromatic layer (60) and said first electrode (63A).

Burk - The Final Office Action contends that Burk teaches the first electrode being structurally adapted to come into contact with the second electrode (Final Office Action at page 2).

In response to this contention, Burk arguably teaches that a layer of a dielectric material, such as an acrylic, is then applied over the top of the electrodes on each membrane to prevent each set of electrodes from contacting the semiconductive rectangle or leads on the opposing membrane (Burk at column 1, lines 61-65).

Burk arguably teaches the presence of two y-axis electrodes 26a and 26b and two x-axis electrodes 30a and 30b (Burk at figure 2, column 4, lines 44-47).

However, the two y-axis electrodes 26a and 26b of Burk are formed on a third, upper surface 28 of the intermediate circuit spacer 20, and the two x-axis electrodes 30a and 30b of Burk are formed on an opposite fourth, lower surface 32 of the intermediate circuit spacer 20 (Burk at figure 2, column 4, lines 44-47).

Thus, Burk fails to disclose, teach or suggest y-axis electrodes 26a and 26b being structurally adapted to come into electrical contact with two x-axis electrodes 30a and 30b.

The Advisory Action of June 29, 2005 asserts that whether electrodes 26a and 26b come into contact with electrodes 30a and 30b of Burk is immaterial to the rejection (Advisory Action at page 2). Instead, the Advisory Action asserts that when the top membrane is depressed, it contacts the bottom membrane between the projections (Advisory Action at page 2).

In response to this assertion, Burk arguably teaches the presences of a top membrane 12 with a lower conductive surface 16 and a bottom membrane 14 with an upper conductive surface 18 (Burk at Figure 5, Abstract). Burk additionally provides that when the top membrane is depressed, it contacts the bottom membrane between the projections (Burk at column 2, lines 9-11).

Claim 14 provides for the first and second electrodes being between a first sheet and a second sheet.

However, Burk fails to disclose, teach or suggest the top and bottom membranes 12 and 14 being between a first sheet and a second sheet (Burk at Figure 5).

Itoh - Itoh arguably teaches a data input device having a color-change layer 50 (Itoh at figure 1).

However, Itoh fails to disclose, teach or suggest first and second electrodes between a first sheet and a second sheet.

In addition, Itoh fails to disclose, teach or suggest a first electrode structurally adapted to come into electrical contact with a second electrode. Instead, Itoh teaches the absence of a direct electrical contact between the upper conductive layer 1 and the resistive layer 2 (Itoh at page 10, lines 25-27).

The Final Office Action also admits that Itoh fails to disclose, teach or suggest a reversible chromatic layer having at least two coatings (Final Office Action at page 3).

Kito - Kito arguably teaches a support 1, a nonthermochromic image layer 2, a first reversible thermochromic image layer 3-1 and a second reversible thermochromic image layer 4-1 and 4-2 (Kito at figure 6, column 2, lines 38-44).

But like Burk and Itoh, Kito fails to disclose, teach or suggest first and second electrodes between a first sheet and a second sheet.

Also like Burk and Itoh, Kito fails to disclose, teach or suggest a first electrode structurally adapted to come into electrical contact with a second electrode.

Claims 15-17 - The rejection of these claims is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 15, said sheet-type switch portion includes a spacer (62C) between said first sheet (62A) and said second sheet (62B), said spacer (62C) being adjacent said first and second electrodes (63A, 63B).

Burk arguably teaches the presence of a peripheral intermediate circuit spacer 20 between a top membrane 12 and a bottom membrane 14 (Burk at Figure 5, column 4, lines 39-40). However, Burk fails to disclose, teach or suggest the peripheral intermediate circuit spacer 20 being between a first sheet and a second sheet.

Claim 15 is dependent upon claim 14. Claim 15 includes a spacer between said first sheet and said second sheet, and claim 14 provides for said first and second electrodes being between said first sheet and said second sheet.

But whereas Burk arguably teaches the peripheral intermediate circuit spacer 20 being between the nonconductive adhesive strips 60 and the conductive strips 64, Burk fails to disclose,

teach or suggest the top membrane 12 and the bottom membrane 14 being between the nonconductive adhesive strips 60 and the conductive strips 64 (Burk at Figure 5).

Itoh and Kito fail to disclose, teach or suggest the features that are absent from within Burk.

Claim 26 - The rejection of this claim is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 26, said first sheet (62A) is structurally adapted to be plastically deformed.

Burk arguably teaches that the top membrane 12 is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film (Burk at column 5, lines 21-23).

Moreover, Burk arguably teaches that the bottom membrane 14 may be constructed from any dielectric material, and need not be flexible, and that, preferably a second sheet of plastic film of the same type as the top membrane 12 is utilized (Burk at column 5, lines 23-27).

The Advisory Action appears to attempt an association of the top membrane 12 and the bottom membrane 14 found within Burk with the first electrode and the second electrode found within the claims.

However, Burk fails to disclose, teach or suggest the presence of a first sheet, as claimed.

Itoh and Kito fail to disclose, teach or suggest the features that are absent from within Burk.

Claim 28 - The rejection of this claim is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 28, said second sheet (62B) is structurally adapted to be plastically deformed.

Burk arguably teaches that *the top membrane 12* is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film (Burk at column 5, lines 21-23).

Moreover, Burk arguably teaches that *the bottom membrane 14* may be constructed from any dielectric material, and need not be flexible, and that, preferably a second sheet of plastic film of the same type as the top membrane 12 is utilized (Burk at column 5, lines 23-27).

The Advisory Action appears to attempt an association of the top membrane 12 and the bottom membrane 14 found within Burk with the first electrode and the second electrode found within the claims.

However, Burk fails to disclose, teach or suggest the presence of a second sheet, as claimed.

Itoh and Kito fail to disclose, teach or suggest the features that are absent from within Burk.

The Examiner erred in rejecting claims 14-21 and 24-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 4-7, respectively, of to Motoyama in view of Burk.

Claims 14, 18-21, 24-25 - The rejection of these claims is traversed at least for the following reasons.

Claim 14 includes the features of:

a sheet-type switch portion (62) having a first sheet (62A), a second sheet (62B), a first electrode (63A), and a second electrode (62B), said first and second electrodes (63A, 63B) being between said first sheet (62A) and said second sheet (62B), said first electrode (63A) being structurally adapted to come into electrical contact with said second electrode (63B); and

a reversible chromatic layer (60) having at least two coatings (60A, 60B), each of said at least two coatings (60A, 60B) being structurally adapted to exhibit thermochromism, said first sheet (62A) being between said reversible chromatic layer (60) and said first electrode (63A).

Motoyama - The Final Office Action admits that the first and second electrodes, spacers, and details of the two sheets are absent from the claims of Motoyama. Instead, Burk has been cited by the Examiner for the features that are deficient from within Motoyama.

In addition, the Final Office Action has failed to perform an element-by-element analysis between claims 1, 2, and 4-7 of Motoyama and claims 14-21 and 24-28 of the present application. In this regard, the Final Office Action is incomplete.

Burk - The Final Office Action contends that Burk teaches the first electrode being structurally adapted to come into contact with the second electrode (Final Office Action at page 2).

In response to this contention, Burk arguably teaches that a layer of a dielectric material, such as an acrylic, is then applied over the top of the electrodes on each membrane to prevent each set of electrodes from contacting the semiconductive rectangle or leads on the opposing membrane (Burk at column 1, lines 61-65).

Burk arguably teaches the presence of two y-axis electrodes 26a and 26b and two x-axis electrodes 30a and 30b (Burk at figure 2, column 4, lines 44-47).

However, the two y-axis electrodes 26a and 26b of Burk are formed on a third, upper surface 28 of the intermediate circuit spacer 20, and the two x-axis electrodes 30a and 30b of Burk are formed on an opposite fourth, lower surface 32 of the intermediate circuit spacer 20 (Burk at figure 2, column 4, lines 44-47).

Thus, Burk fails to disclose, teach or suggest y-axis electrodes 26a and 26b being structurally adapted to come into electrical contact with two x-axis electrodes 30a and 30b.

The Advisory Action of June 29, 2005 asserts that whether electrodes 26a and 26b come into contact with electrodes 30a and 30b of Burk is immaterial to the rejection (Advisory Action at page 2). Instead, the Advisory Action asserts that when the top membrane is depressed, it contacts the bottom membrane between the projections (Advisory Action at page 2).

In response to this assertion, Burk arguably teaches the presences of a top membrane 12 with a lower conductive surface 16 and a bottom membrane 14 with an upper conductive surface 18 (Burk at Figure 5, Abstract). Burk additionally provides that when the top membrane is depressed, it contacts the bottom membrane between the projections (Burk at column 2, lines 9-11).

Claim 14 provides for the first and second electrodes being between a first sheet and a second sheet.

However, Burk fails to disclose, teach or suggest the top and bottom membranes 12 and 14 being between a first sheet and a second sheet (Burk at Figure 5).

Claims 15-17 - The rejection of these claims is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 15, said sheet-type switch portion includes a spacer (62C) between said first sheet (62A) and said second sheet (62B), said spacer (62C) being adjacent said first and second electrodes (63A, 63B).

Burk arguably teaches the presence of a peripheral intermediate circuit spacer 20 between a top membrane 12 and a bottom membrane 14 (Burk at Figure 5, column 4, lines 39-40). However, Burk fails to disclose, teach or suggest the peripheral intermediate circuit spacer 20 being between a first sheet and a second sheet.

Claim 15 is dependent upon claim 14. Claim 15 includes a spacer between said first sheet and said second sheet, and claim 14 provides for said first and second electrodes being between said first sheet and said second sheet.

But whereas Burk arguably teaches the peripheral intermediate circuit spacer 20 being between the nonconductive adhesive strips 60 and the conductive strips 64, Burk fails to disclose, teach or suggest the top membrane 12 and the bottom membrane 14 being between the nonconductive adhesive strips 60 and the conductive strips 64 (Burk at Figure 5).

Claim 26 - The rejection of this claim is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 26, said first sheet (62A) is structurally adapted to be plastically deformed.

Burk arguably teaches that *the top membrane 12* is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film (Burk at column 5, lines 21-23).

Moreover, Burk arguably teaches that *the bottom membrane 14* may be constructed from any dielectric material, and need not be flexible, and that, preferably a second sheet of plastic film of the same type as the top membrane 12 is utilized (Burk at column 5, lines 23-27).

The Advisory Action appears to attempt an association of the top membrane 12 and the bottom membrane 14 found within Burk with the first electrode and the second electrode found within the claims.

However, Burk fails to disclose, teach or suggest the presence of a first sheet, as claimed.

Claim 27 - The rejection of this claim is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 27, an input operation is effected by direct contact with said second sheet.

Burk arguably teaches that *the top membrane 12* is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film (Burk at column 5, lines 21-23).

Moreover, Burk arguably teaches that *the bottom membrane 14* may be constructed from any dielectric material, and need not be flexible, and that, preferably a second sheet of plastic film of the same type as the top membrane 12 is utilized (Burk at column 5, lines 23-27).

The Advisory Action appears to attempt an association of the top membrane 12 and the bottom membrane 14 found within Burk with the first electrode and the second electrode found within the claims.

However, Burk fails to disclose, teach or suggest the presence of a second sheet, as claimed.

Claim 28 - The rejection of this claim is traversed at least for the reasons provided hereinabove with respect to claim 14 and for the following reasons.

Within claim 28, said second sheet (62B) is structurally adapted to be plastically deformed.

Burk arguably teaches that the top membrane 12 is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film (Burk at column 5, lines 21-23).

Moreover, Burk arguably teaches that the bottom membrane 14 may be constructed from any dielectric material, and need not be flexible, and that, preferably a second sheet of plastic film of the same type as the top membrane 12 is utilized (Burk at column 5, lines 23-27).

The Advisory Action appears to attempt an association of the top membrane 12 and the bottom membrane 14 found within Burk with the first electrode and the second electrode found within the claims.

However, Burk fails to disclose, teach or suggest the presence of a second sheet, as claimed.

Conclusion

The claims are considered allowable for the same reasons discussed above, as well as for the additional features they recite. Reversal of the Examiner's decision is respectfully requested.

Dated: October 13, 2006

Respectfully submitted,

By 

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CLAIMS APPENDIX

1-13. (Canceled).

14. (Previously presented) An electronic apparatus having an input device, the input device comprising:

a sheet-type switch portion having a first sheet, a second sheet, a first electrode, and a second electrode, said first and second electrodes being between said first sheet and said second sheet, said first electrode being structurally adapted to come into electrical contact with said second electrode; and

a reversible chromatic layer having at least two coatings, each of said at least two coatings being structurally adapted to exhibit thermochromism, said first sheet being between said reversible chromatic layer and said first electrode.

15. (Previously presented) The electronic apparatus as claimed in Claim 14, wherein said sheet-type switch portion includes a spacer between said first sheet and said second sheet, said spacer being adjacent said first and second electrodes.

16. (Previously presented) The electronic apparatus as claimed in Claim 15, wherein said spacer is formed from an insulating material.

17. (Previously presented) The electronic apparatus as claimed in Claim 15, wherein a void is between said spacer and another spacer, said first and second electrodes being disposed within said void.

18. (Previously presented) The electronic apparatus as claimed in Claim 14, wherein a first coating of said at least two coatings has a temperature-dependent chromatic characteristic different than a second coating of said at least two coatings.

19. (Previously presented) The electronic apparatus as claimed in Claim 18, wherein said first coating is laterally adjacent to said second coating.

20. (Previously presented) The electronic apparatus as claimed in Claim 18, wherein said first coating is in contact with said second coating.

21. (Previously presented) The electronic apparatus as claimed in Claim 18, wherein said second coating is on said first coating, a portion of said second coating being removed to expose said first coating.

22. (Previously presented) The electronic apparatus as claimed in Claim 14, further comprising:

a heat-insulating layer, said sheet-type switch portion being between said heat-insulating layer and said reversible chromatic layer.

23. (Previously presented) The electronic apparatus as claimed in Claim 22, wherein said heat-insulating layer is between said sheet-type switch portion and a circuit board, said heat-insulating layer being adapted to prevent heat generated by electronic parts on said circuit board from conducting toward said reversible chromatic layer.

24. (Previously presented) The electronic apparatus as claimed in Claim 14, wherein said reversible chromatic layer is located on a front surface of said sheet-type switch portion and exposed outward within a window provided to a housing of said electronic apparatus.

25. (Previously presented) An electronic apparatus as claimed in Claim 14, wherein an input operation is effected by direct contact with said reversible chromatic layer.

26. (Previously presented) An electronic apparatus as claimed in Claim 14, wherein said first sheet is structurally adapted to be plastically deformed.

27. (Previously presented) An electronic apparatus as claimed in Claim 14, wherein an input operation is effected by direct contact with said second sheet.

28. (Previously presented) An electronic apparatus as claimed in Claim 14, wherein said second sheet is structurally adapted to be plastically deformed.

EVIDENCE APPENDIX

There is no other evidence which will directly affect or have a bearing on the Board's decision in this appeal.

RELATED PROCEEDINGS APPENDIX

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.